

WHAT IS CLAIMED IS:

1. In a communication system including a plurality of reservation proxy elements, a method comprising the reservation proxy elements performing steps of:
 - 5 receiving a multicast group address to be used for a prospective call;
 - joining the multicast group address;
 - sending, to one or more network devices, one or more messages defining senders from which packets addressed to the multicast group address are eligible to be received during the prospective call; and
 - 10 exchanging control messages with the eligible senders to establish a reservation of communication resources on behalf of participating devices for the prospective call.
- 15 2. The method of claim 1, wherein the step of exchanging control messages comprises exchanging RSVP path and reserve messages with the eligible senders.
- 20 3. The method of claim 1, wherein the step of sending comprises sending IGMPv3 membership reports identifying only specified reservation proxy elements as eligible senders.
- 25 4. The method of claim 3, wherein the specified reservation proxy elements comprise zone controllers associated with certain zones of the communication system.
5. The method of claim 4, wherein the specified reservation proxy elements comprise zone controllers associated with all zones of the communication system.

6. The method of claim 4, wherein the specified reservation proxy elements comprise zone controllers associated only with participating zones of the communication system, the participating zones defining zones that include participating devices for the prospective call.

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7. The method of claim 4, wherein the step of exchanging control messages comprises exchanging call control information with the specified zone controllers.

10 8. The method of claim 7, wherein the call control information includes indicia of availability of the reservation of communication resources for the prospective call, the method comprising at least one zone controller of the specified zone controllers performing steps of:

15 granting the prospective call, thereby forming an active call; and
instructing the participating hosts to join the multicast group address to participate in an active call.

9. The method of claim 8, further comprising:
sourcing, by a sourcing host during the active call, information addressed
20 to the multicast group address; and
distributing the information, from the network devices to participating hosts having joined the multicast address.

10. The method of claim 8, wherein the call control information includes
25 indicia of an end of the active call, the method comprising the at least one zone controller instructing the participating hosts to leave the multicast group address to end participation in the call.

11. In a communication system organized into a plurality of communication zones having respective zone controllers, one or more of the zone controllers defining participating zone controllers having joined a multicast group address to participate in a call and having indicated, to one or more network devices, a desire to receive packets from certain specified senders during the call, a method comprising:

- 5 determining that a new zone should be added to the call;
- redefining the specified senders to include a new zone controller associated with the new zone;
- 10 joining, by the new zone controller, the multicast group address;
- sending, by the new zone controller to the one or more network devices, one or more messages defining the participating zone controllers as eligible senders from which packets addressed to the multicast group address are eligible to be received during the call; and
- 15 exchanging control messages between the new zone controller and the eligible senders to establish a reservation of communication resources for the new zone on behalf of participating hosts in the new zone.

12. The method of claim 11, wherein the step of redefining the specified senders comprises sending, from the participating zone controllers to the one or more network devices, IGMPv3 membership reports specifying the new zone controller as an eligible sender.

13. The method of claim 11, wherein the step of exchanging control messages comprises exchanging RSVP path and reserve messages between the new zone controller and the eligible senders.

14. The method of claim 11, wherein the step of exchanging control messages comprises exchanging call control information indicating an availability

of the reservation of communication resources for the new zone, the method further comprising steps of:

- granting the call to the new zone; and
- instructing the participating hosts in the new zone to join the multicast group address to participate in the call.